

# Multiple Animal Scale Portable

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## Installation/Service Manual





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# 1.0 Introduction

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The Multiple Animal Scale Portable (MAS-P) system is manufactured with top quality components and is engineered using the latest technology to provide operating features and reliability unmatched for years to come. Please take the time to read this manual completely through before attempting to use the system. Although the MAS-P has been designed for easy set up and use, a thorough understanding of this manual will ensure that you receive the maximum benefit from the system.

If you have any questions or comments please contact *Rice Lake Weighing Systems*.

## 1.1 Overview

The MAS-P shown below consists of a sheeted animal cage suspended by four S-type load cells through a cam style On-Board lift system on top a portable base frame. In transport mode, the scale system is locked down, protecting the load cells from damage during transport. The scale is raised to the weigh mode using a lever and cam system. A digital indicator is connected to the scale to display the weight.

The MAS-P can be used on any firm surface up to 7% grade (4-degree slope) and has a low deck height (6") for easy step in.



Figure 1-1. MAS-P Animal Scale

## 1.2 Safety

### Safety Symbol Definitions:



Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury.



Indicates a potentially hazardous situation that, if not avoided could result in death or serious injury, and includes hazards that are exposed when guards are removed.



Indicates a potentially hazardous situation that, if not avoided may result in minor or moderate injury.



**Important**

Indicates information about procedures that, if not observed, could result in damage to equipment or corruption to and loss of data.

## General Safety



Do not operate or work on this equipment unless you have read and understand the instructions and warnings in this manual. Failure to follow the instructions or heed the warnings could result in injury or death. Contact any Rice Lake Weighing System dealer for replacement manuals. Proper care is your responsibility.



*Failure to heed may result in serious injury or death.*

**DO NOT** allow minors (children) or inexperienced persons to operate this unit.

**DO NOT** operate without all shields and guards in place.

**DO NOT** use for purposes other than weighing.

**DO NOT** place fingers into slots or possible pinch points.

**DO NOT** place hands, feet or any body part underneath the scale at any time. The scale could be lowered, crushing body parts.

**DO NOT** use any load bearing component that is worn beyond 5% of the original dimension.

**DO NOT** use this product if any of the components are cracked.

**DO NOT** exceed the rated load limit of the unit.

**DO NOT** make alterations or modifications to the unit.

**DO NOT** remove or obscure warning labels.

Keep hands, feet and loose clothing away from moving parts.

Some procedures described in this manual require work inside the indicator enclosure. These procedures are to be performed by qualified service personnel only.

Always be certain when lowering the scale that everyone is clear of the scale and any moving parts.

Use two hands when gripping the lift handle to raise or lower the scale.

Be sure the gates are latched or tied inward before transporting the scale.

Ensure all three hitch lock pins are installed and the suspension stops are in the transport position before moving the scale.



**Important**

### Animal Safety:

Animal safety is a very serious issue and must be observed when handling any type of animal.

The scale surface may become slippery during use; a build-up of manure on the scale may reduce traction. It is recommended that you take any necessary precautions to maintain an acceptable level of animal footing.

### Calibration:

Do not calibrate this scale with a weight cart having a gross weight in excess of 25% of the total capacity of the scale (3750 lbs or 1,700 kg max for the MAS-P 8X13, 5000lb or 2,268 kg max for MAS-P 8x18). This device is designed to be calibrated with single block weights spread evenly throughout the floor of the scale. Shift tests should not be done with more than 4,000 lbs or 1,815 kg in a 4' x 4' area. Failure to comply with this warning will result in damage to the scale and void the warranty.

## 1.2.1 Safety Decals



①



②



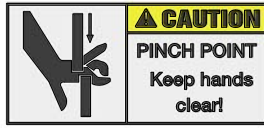
③



④



⑤



⑥



⑦



⑧



*Items 2-4 are on units equipped with the 920i Weighcenter only.*

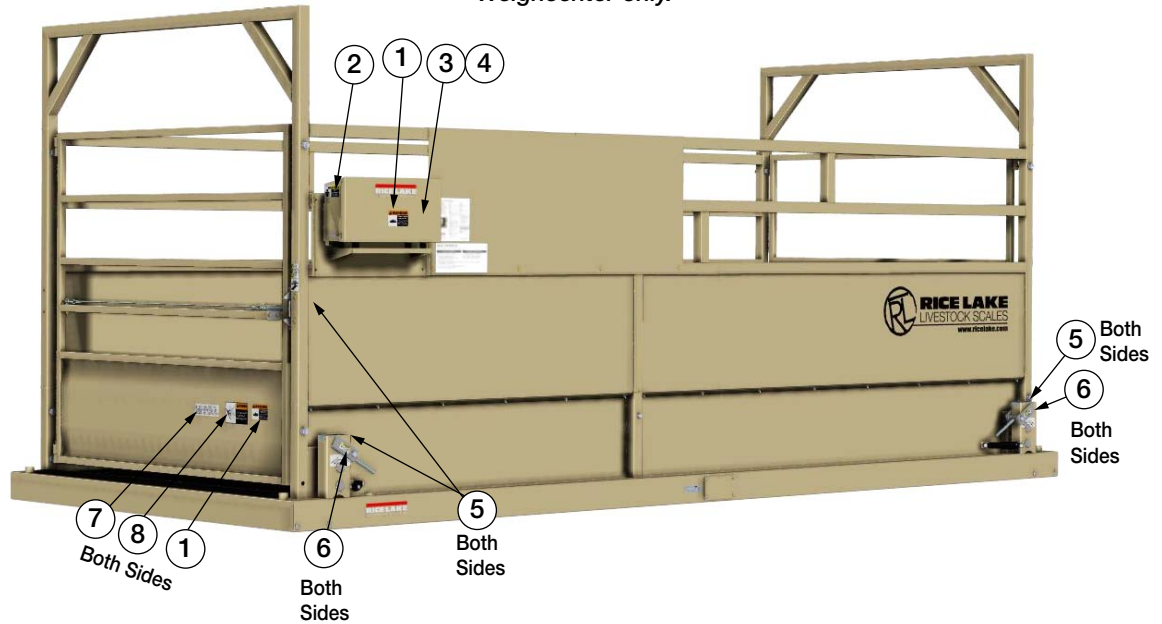


Figure 1-2. Safety Decal Locations

| Item # | Part # | Description                                   | Qty |
|--------|--------|-----------------------------------------------|-----|
| 1      | 151908 | Read Manual                                   | 3   |
| 2      | 151904 | Caution, Low Clearance (Weighcenter)          | 1   |
| 3      | 151906 | Warning, Do Not Open (Weighcenter)            | 1   |
| 4      | 151907 | Warning, Do Not Leave Tray Down (Weighcenter) | 2   |
| 5      | 151909 | Caution, Pinch Point                          | 14  |
| 6      | 151910 | Caution, Always Grip With Two Hands           | 4   |
| 7      | 128266 | Do Not Use For Transportation of Goods        | 2   |
| 8      | 151902 | Warning, Opens Quickly                        | 2   |

Table 1-1. Safety Decal Parts List

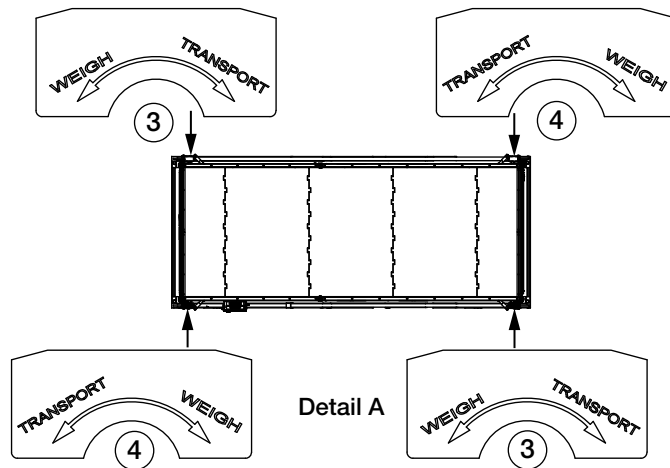
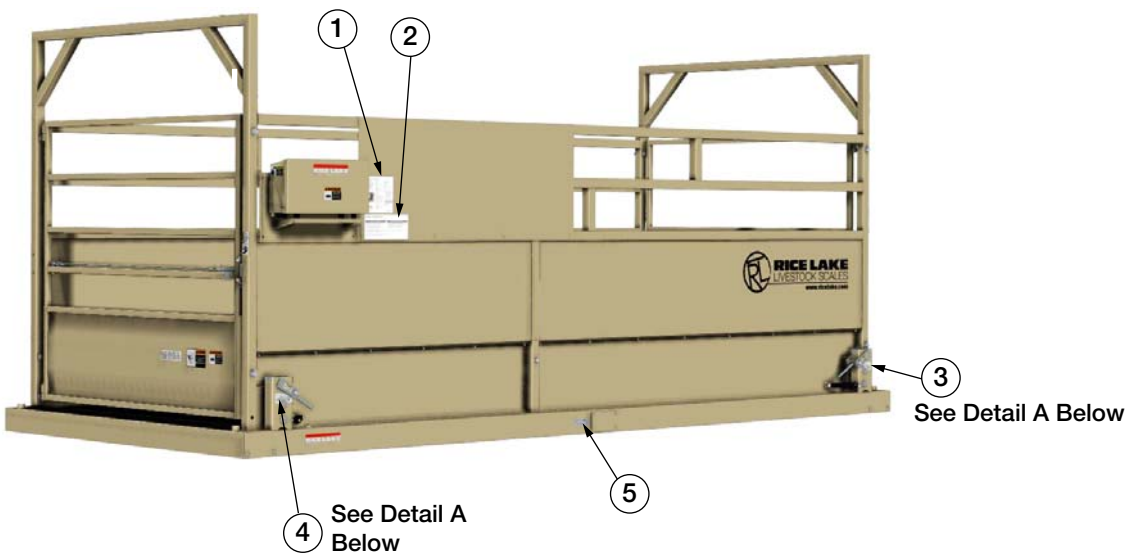


Figure 1-3. Non-Safety Decals

| Item # | Part # | Description                       | Qty |
|--------|--------|-----------------------------------|-----|
| 1      | 164911 | Label, 920i Weighcenter Operation | 1   |
| 2      | 127091 | Label, Basic Operation            | 1   |
| 3      | 132692 | Label, Weigh/Transport            | 2   |
| 4      | 127094 | Label, Weigh/Transport            | 2   |
| 5      | 16863  | Serial Number Label               | 1   |

Table 1-2. Non-Safety Decals Parts List

## 1.3 Unloading

Follow instructions below to unload the scale.

### 1.3.1 Slinging the scale.

MAS-P can be slung with four equal length straps connected from the lifting lugs to a single point in the center.

- Strap length 8 x 13 = 7 ft minimum
- Strap length 8 x 18 = 10 ft minimum

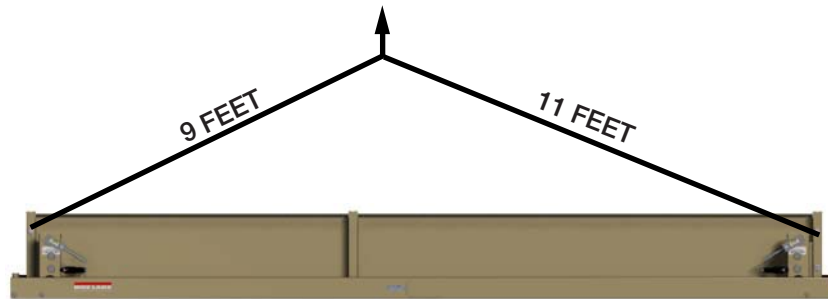


Figure 1-4. Slinging the Scale

### 1.3.2 Lift the Scale

1. If stacked, monitor the four corners directly below the lifting fixtures. Each corner has a shipping stub inserted, these stubs are not bolted in place, ensure they remain with the lower scale.
2. Once the upper scale of the stack is removed the stubs can be discarded.

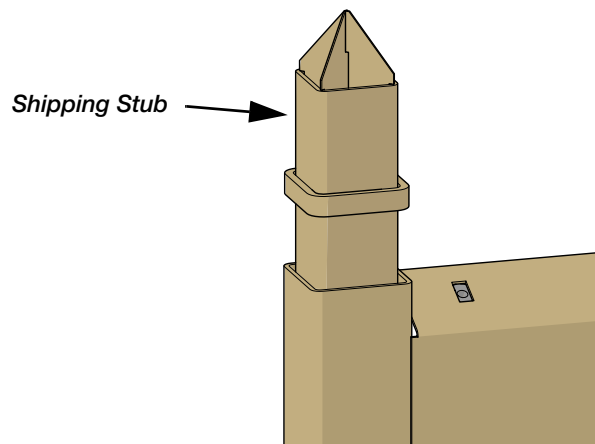


Figure 1-5. Shipping Stub

3. The scale can now be stored as is or placed on a relatively flat location to be assembled.

### 1.3.3 Remove Lifting Fixture

Remove the lifting fixture after scale has been placed in position.

1. Remove the nylon locknut from the bolt installed for shipping.
2. Remove the lifting fixture from the bolt.
3. Reinstall the nut, retain the lifting fixture for future moves.

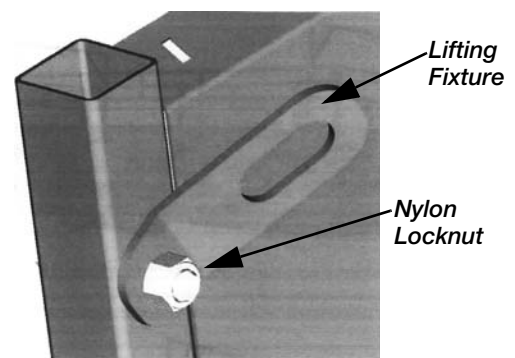


Figure 1-6. Lifting Fixture

## 1.4 Lifting Assembled Scale

Lift the scale only in designated locations (see Figure 1-7). The scale can be lifted by four straps and a crane or loader. **Ensure the scale is in the transport mode** (locked down – see Section 2.3 on page 8) when loading and transporting the scale.

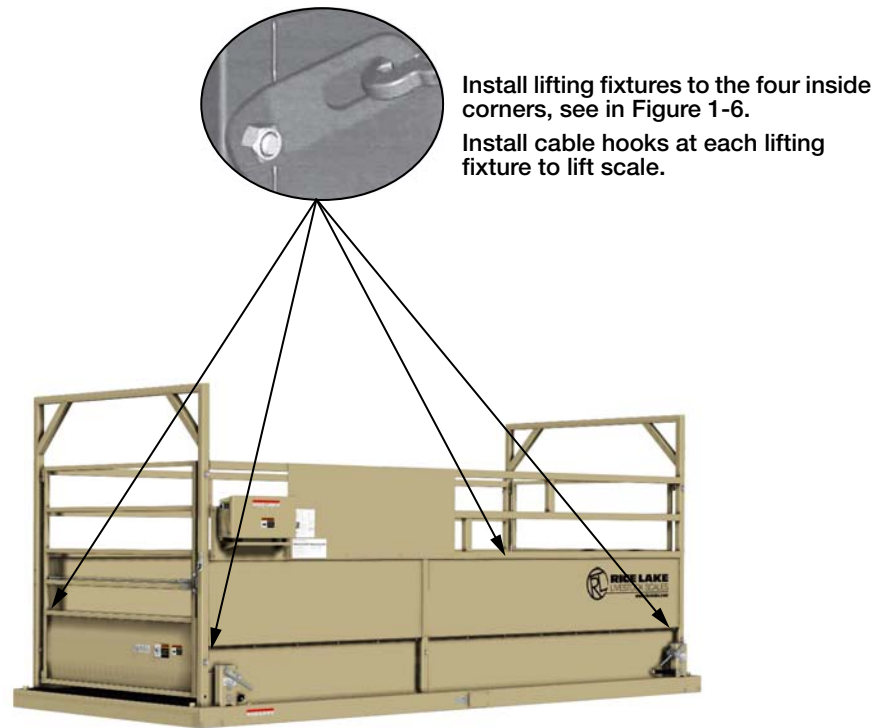


Figure 1-7. Lift Points

## 1.5 Package Removal

The indicator is shrink wrapped for transportation. Be careful when removing to avoid damaging the indicator. Remove indicator, then re-strap the walls if the scale is to be transported while packaged.

## 2.0 Installation

As with any weighing equipment, the accuracy of the scale is dependent on the installation. The following points must be adhered to when installing the MAS-P Animal Scale.

In all installations, the scale must be level to ensure proper operation. All MAS-P Animal Scales are equipped with a bubble level (located on top the base frame – see Figure 2-1). Ensure the bubble is fully inside the circle marked on the top of the level.

### 2.1 Permanent Installation

Rice Lake Weighing Systems recommends a concrete foundation (piles or piers) for permanent installations. The foundation must be able to support the gross weight of the scale (scale dead weight plus scale capacity), and the piles or piers must be situated directly under the load cell stands (see shimming location in Figure 2-1). The foundation must not be subject to distortion or motion due to frost action. A qualified local professional should be consulted to recommend the proper size of foundation for the location. Foundation dimensional requirements are available from the dealer or Rice Lake Weighing Systems. Requirements may vary from one Weights and Measures jurisdiction to another, please contact the local office.

### 2.2 Portable Installation

The MAS-P is ideal for use in many locations. Simply load and unload the scale as described in the Section 1.4 on page 6. Locate the scale in as level a location as possible, and shim (with wood or metal shims) under the load cell stands to ensure the scale is level as described above. Please contact the local Weights and Measures office regarding the moving of the scale to ensure the validity of the certification.

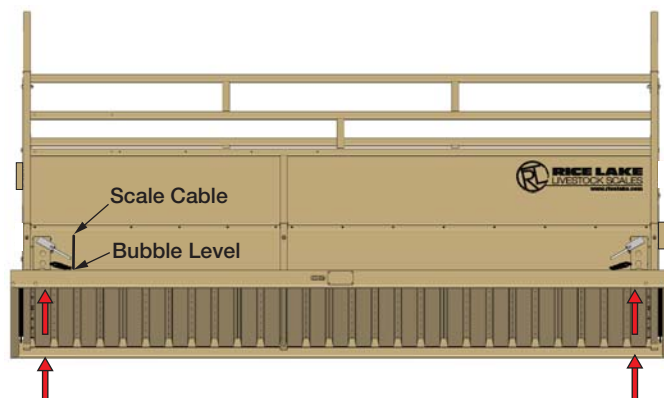


Figure 2-1. Shim/Load Cell Stand Locations

## 2.3 Switching Modes

### 2.3.1 Convert to Weigh Mode

1. Place the scale in as level a location as possible. Ensure there are no obstructions under the deck that would affect weighing accuracy. Check the bubble level. Use shims or timbers to ensure the scale is as close to level as possible.



**Note** The scale will weigh properly on any firm surface up to 7% grade (4-degree slope).

2. Inspect all four corners of the scale. Although the scale will weigh properly up to four degrees off level, individual corners of the scale should not be allowed to teeter. If any of the corners are not contacting the ground, place shims directly under the base frame, under the load cell stands, to prevent teetering (see Figure 2-1) .
3. Plug the indicator into the scale cable. The scale cable runs from the junction box (inside the base frame) to the indicator (see Figure 2-1).
4. Connect power to the indicator and switch ON.
5. **USING BOTH HANDS**, raise the platform to enable the scale (see Figure 2-2).



**WARNING** The lift mechanism is an over center cam style lift and lock. If not disturbed, the scale will remain “locked” in the up position. Always grip lift handle with two hands when raising and lowering the scale.



**Note** Cam levers point toward each other in weigh mode and away from each other in transport. See decals for direction of levers in each mode.

6. The scale is now ready to weigh.

### 2.3.2 Convert to Transport Mode

When the scale is not in use, the scale should be locked down in transport mode to prevent any accidental overload of the weigh system.

1. **USING BOTH HANDS** disengage and lock the scale in transport mode by rotating all four cam levers counter clockwise into the fully locked position.



**WARNING** The lift mechanism is an over center cam style lift and lock. If not disturbed, the scale will remain “locked” in the up position. Always grip lift handle with two hands when raising and lowering the scale.



**Note** Cam levers point toward each other in weigh mode and away from each other in transport. See decals for direction of levers in each mode.

2. Turn off indicator. A stand alone indicator should be stored indoors when the scale is not in use. The weigh center should be closed and latch to prevent damage.

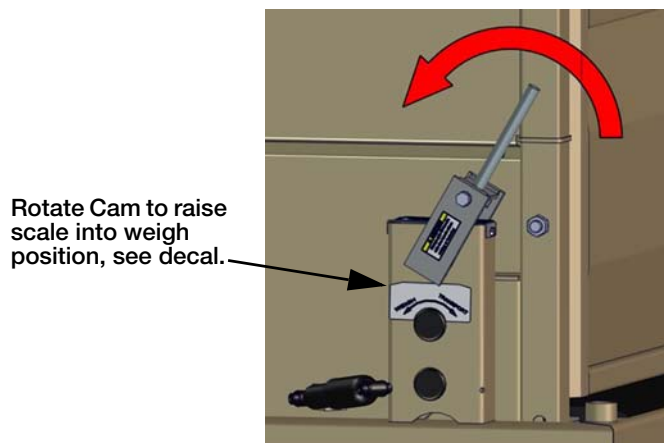


Figure 2-2. Scale Lift

## 2.4 Cage Wall Assembly

### 2.4.1 Apply the silicone bead

Before installing the walls, a silicone bead must be added.

1. Clean the upper flange of the floor and the lower wall flange with mineral spirits.
2. Apply a 1/8" bead of silicone along the upper edge of the floor panel along the entire length as shown in Figure 2-3.

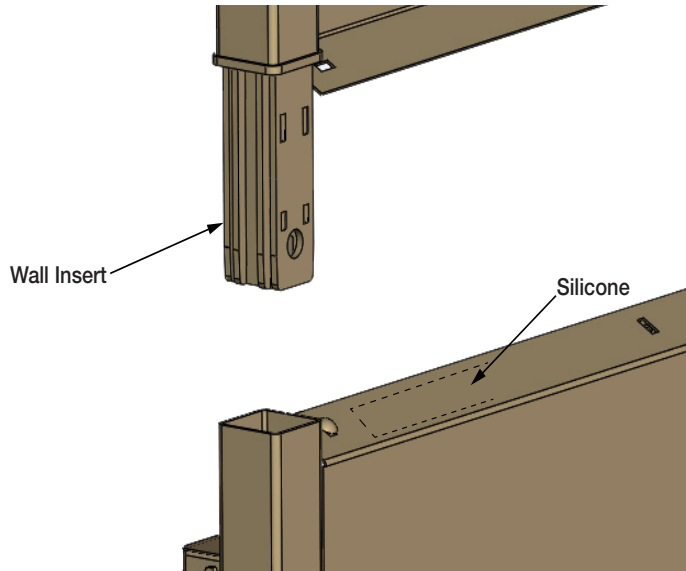


Figure 2-3. Silicon Bead

### 2.4.2 Install walls



**WARNING** Wall installation should be done with two people or an overhead crane.

1. Lift the first wall by using one sling in the center.



**Note** The wall with the holes for the indicator is mounted on the left side.

2. Stand the wall vertical and place the inserts from the wall into the tubes of the cage floor. The more vertical the wall the easier assembly will be.
3. Repeat for the opposite wall.
4. Install the top cross members.
5. Insert the 3/4 x 3 1/2" bolts through the cage wall and inserts on the indicator side of the cage, head of bolt to the inside.



**Note** A come-along from the top of the cross member to bottom of the cage corner post may be required. A ratchet strap is provided in hardware kit.

When both walls are in place, ensure that they are perfectly square. Straps may need to be used to pull for squareness.

### 2.4.3 Install the Gate



**Note**

Install the gate with the hinge bolts on the opposite side of the scale.

Hinge bolts must be assembled with lock washer on the inside of gate and the jam nut on the outside.

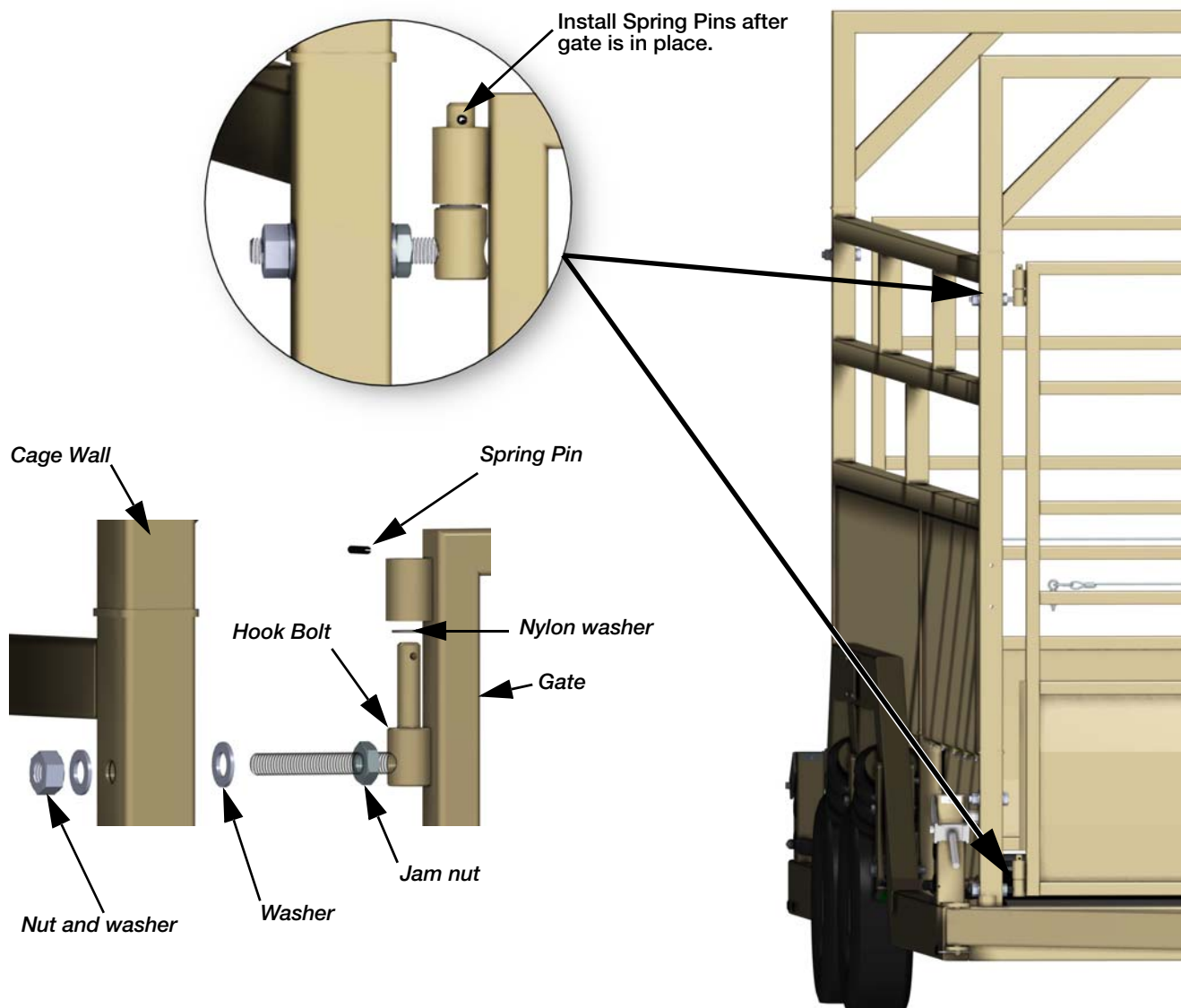


Figure 2-4. Assemble Gate to Scale

1. Install jam nut and lock washer onto the hinge bolts. Screw the nut on about 2".
2. Insert one hinge bolt into the lower and upper holes of the cage wall with the hook portion pointing upward.
3. Install nut and washer onto the hinge bolts securing them to the cage wall.
4. Place nylon washer onto the hook portion of the upper and lower hinge bolts and install the gate onto the hooks.
5. Insert roll pin through the hinge bolts.
6. Repeat steps 2-4 for second gate.
7. Adjust the hinge side gap between the gate and the cage wall to about 3" and snug hinge bolts.

## 2.5 Gate and Latch Adjustment Procedure



**Note** Assemble gates according to the following criteria:

- **Hinge Bolts** - Assemble with lock washer on inside of gate and jam nut on the outside.
- **Hinge Side Gap** - Approximately 3" between the gate and the corner post.
- **Gate Latch Pin** - Install rubber tubing on the latch pin (Mobile units only).

Adjust gates as follows:

1. Adjust the hinge bolts to align the top of the gate on the latch side with the top of the cage wall.
2. Adjust the hinge bolts so the latch side gap is about 1 1/2".
3. Install and adjust the latch so the gate latch pin does not rub on the top or bottom of the latch. Adjust the hinge bolts only if necessary.
4. Ratchet straps can be used diagonally to help square up gates to walls.

## 2.6 T-Belt

Ensure the T-Belt hold down loops are installed and hooked into the corner posts of the cage.

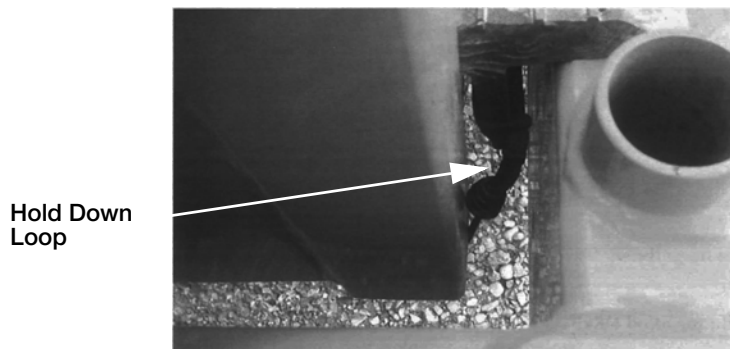


Figure 2-5. T-Belt

## 2.7 Optional 920i Weighcenter Mounting



**Note** The MAS-P is NTEP approved only when purchased with 920i Weighcenter. When using other indicators, it must be re-calibrated each time it's moved.

1. Before installing the bracket, a bead of silicone must be added. See Figure 2-6.
2. Clean the wall tubes where the bracket will mount and the space between the holes on the mount bracket with mineral spirits.
3. Place the mounting bracket onto the cage wall by pressing the adhesive tightly to the cage.
4. Secure with four bolts.
5. Mount the weighcenter onto the mounting bracket and route the cable as shown in Figure 2-6.
6. Install the clamps to secure the conduit.
  - Mount the upper conduit clamp using the lower left mounting bracket bolt.
  - Secure the lower end of the conduit by drilling a hole through the cage sheeting and installing the clamp with the bolt provided.

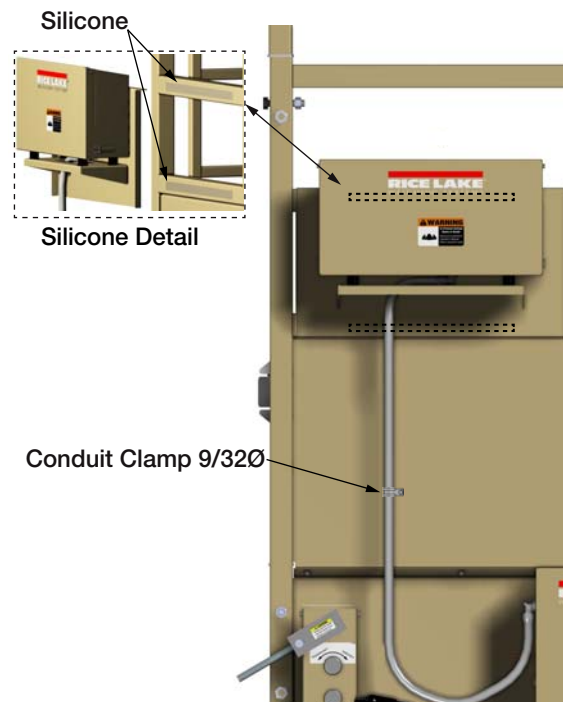


Figure 2-6. Weighcenter Mounting

## Battery Box Connections

For use with the optional battery box, PN 153765.

1. Connect the scale cable and secure with a cable tie.
2. Connect the power wires as shown in Figure 2-7.
3. Replace the battery cover.

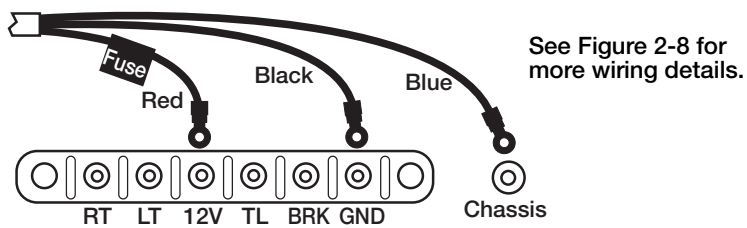


*Figure 2-7. Weighcenter Battery Connections*

## 2.8 Wiring the Scale

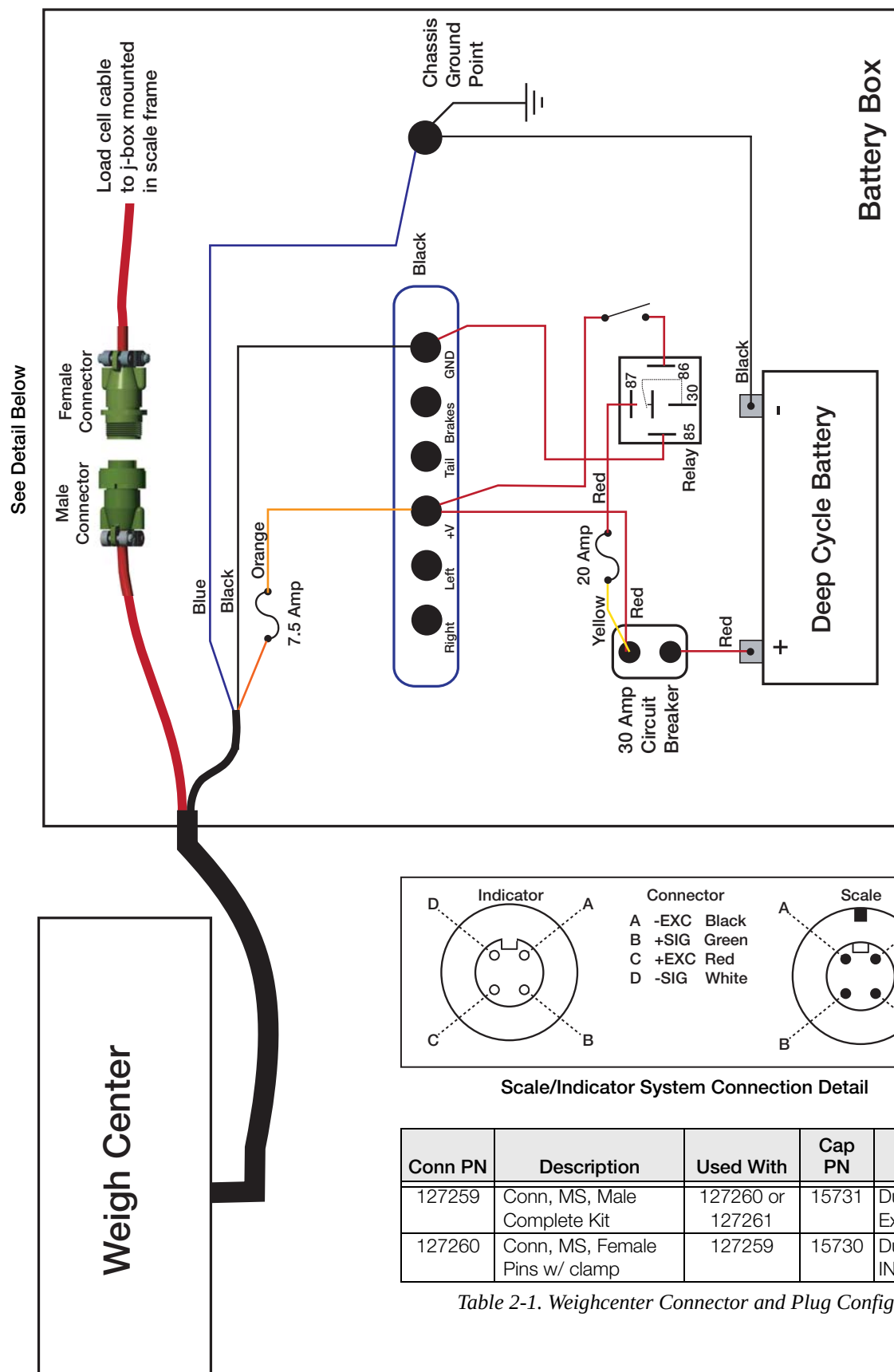


*Table 2-1. Weighcenter Connector and Plug Configurations*

## 2.9 Load Cell Wiring Diagrams



**Note** Load cell wiring shown is effective for all models built after 09/17/2013. Models built prior to this date should rewire the scale to the updated configuration. For information on rewire download Technical Bulletin PN 159193 from [www.ricelake.com](http://www.ricelake.com).

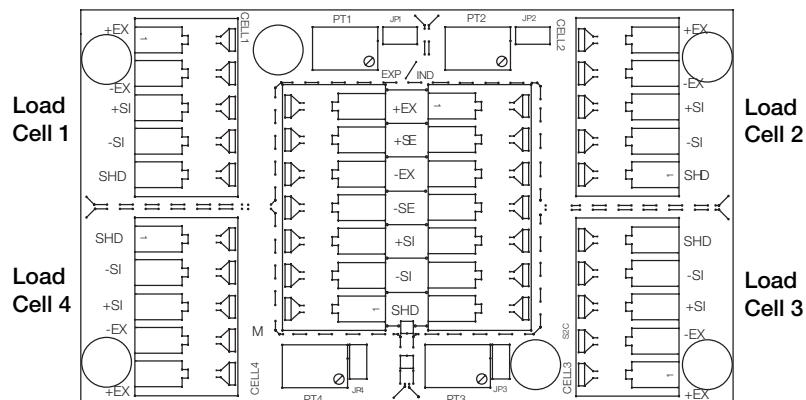
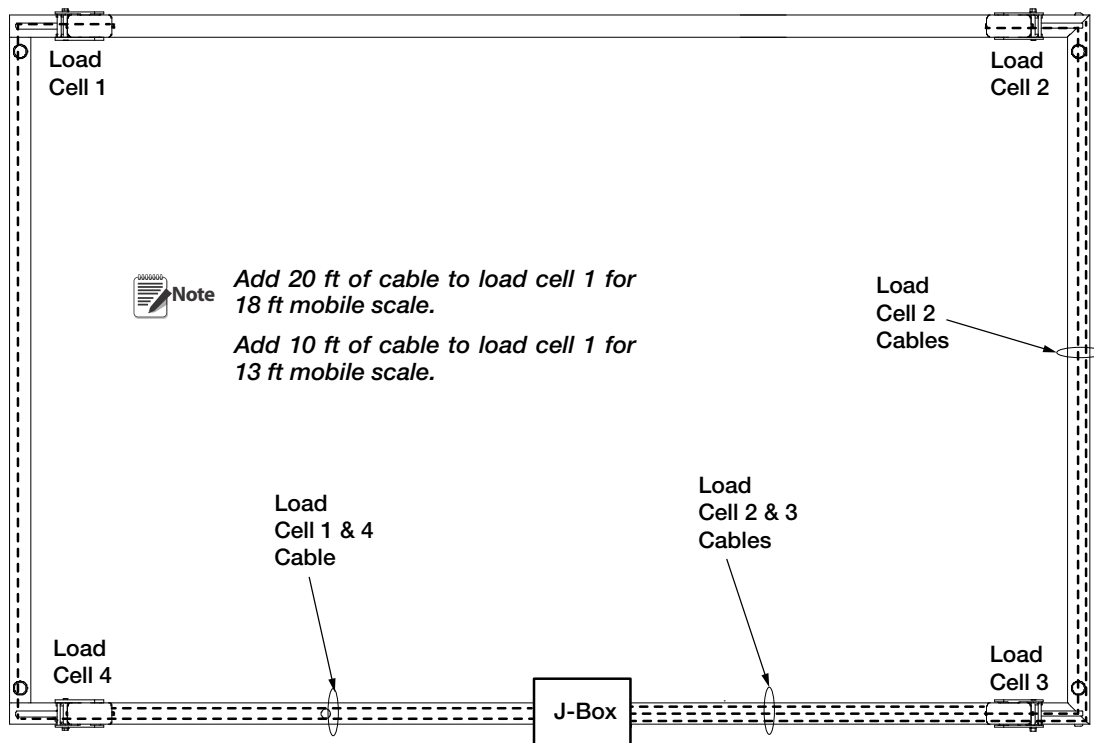


Figure 2-9. Load Cell Wiring Diagram

## 2.10 Optional AC/DC Power Supply Adapter Box Kit

The following are instructions to install the AC/DC Power Supply Adapter Box on a portable animal scale.



Figure 2-10. AC/DC Power Supply Adapter Box Kit

### 2.10.1 Mounting to Scale

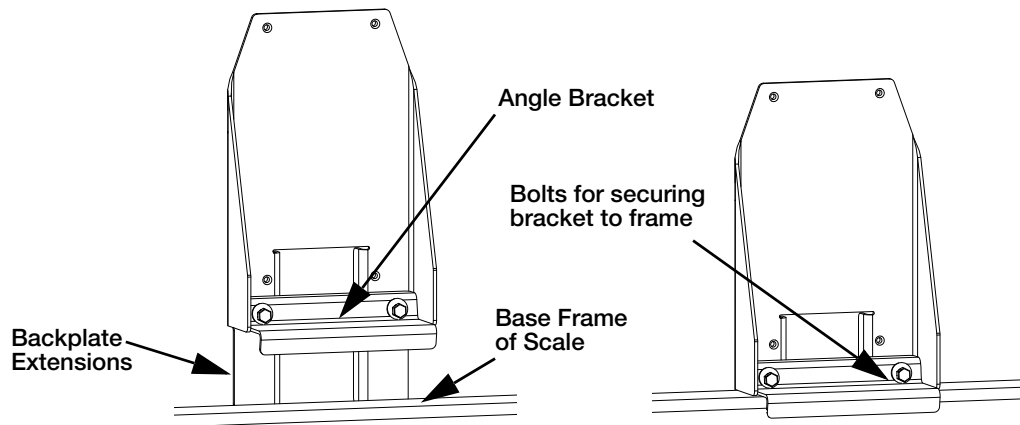


Figure 2-11. Mounting Power Box Assembly to Frame



**Note** The mounting bracket can be positioned anywhere along the frame within the limits of the conduit.

1. Place mounting bracket assembly on the outer beam of the bottom frame on the scale in desired location. Angle bracket should extend past the front of the beam and backplate extensions should be flush with back of beam.
2. Tighten bolts to secure to frame. Ensure they are tight enough to resist movement when scale is in use.



**Note** When ordering a complete package, the enclosure box will be assembled to the mounting bracket. Skip to Step 4.

3. Mount the enclosure box to the mounting bracket using the bolts and washer supplied.

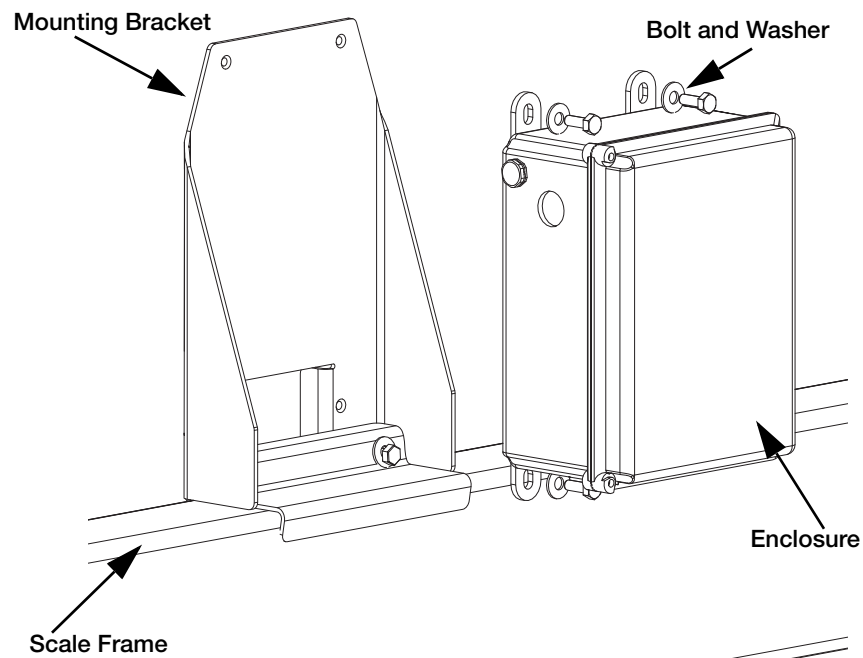


Figure 2-12. Mount Enclosure Box

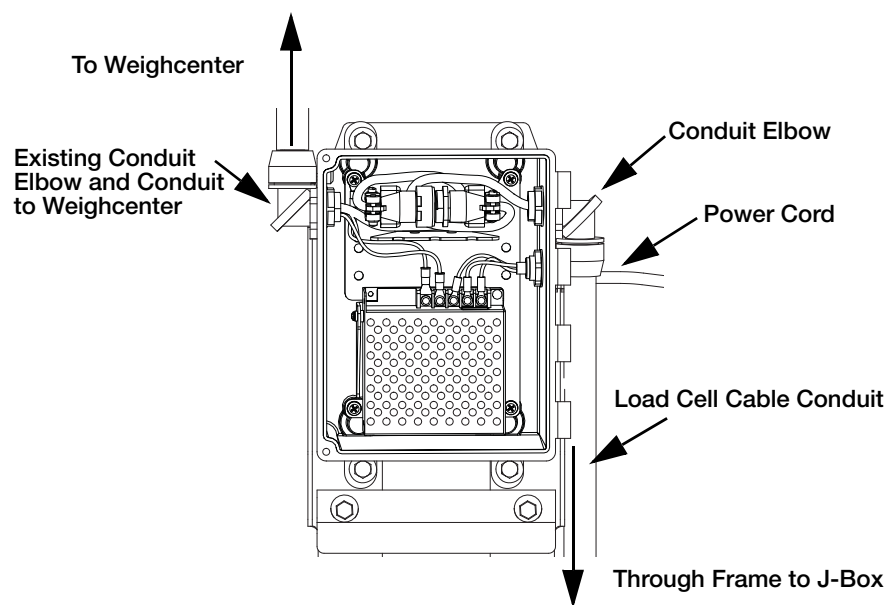


Figure 2-13. Wiring Diagram

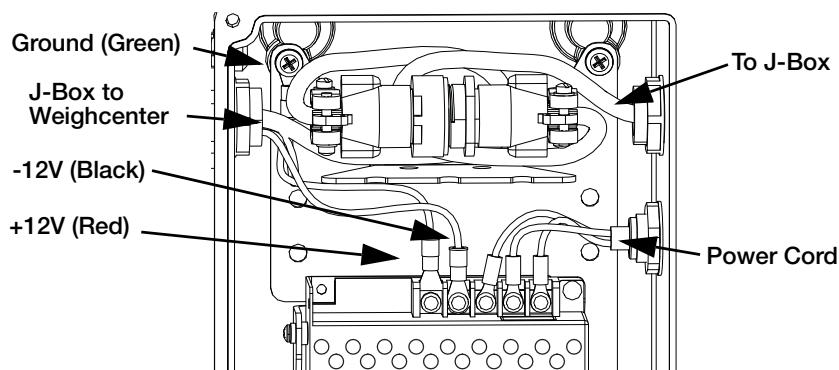


Figure 1. Power Supply Connections

4. Disconnect the homerun cable from the weighcenter (see the weighcenter manual PN 156758) and pull it out of the conduit and conduit elbow.
5. Insert the conduit elbow into the designated hole in the enclosure. Secure with nut.
6. Pass the weighcenter cable from the inside of the enclosure through the conduit elbow and conduit to the weighcenter.
7. Reconnect the cable to the weighcenter.



**Note** *The cable to the weighcenter is part of existing assembly and runs through existing conduit retrofitted to power supply box.*

8. Disconnect the cable from the j-box.
9. Connect conduit elbow to the enclosure at designated hole and secure with nut.
10. Connect the other conduit elbow to the frame near the j-box.
11. Pass the j-box cable through the conduit elbow, supplied conduit and conduit elbow on the frame.
12. Reconnect the j-box cable to the j-box.
13. Connect the j-box cable connector and the Weighcenter cable connector inside enclosure.
14. Secure connectors and excess cable with zip-ties inside the enclosure.

## 3.0 Repair Parts

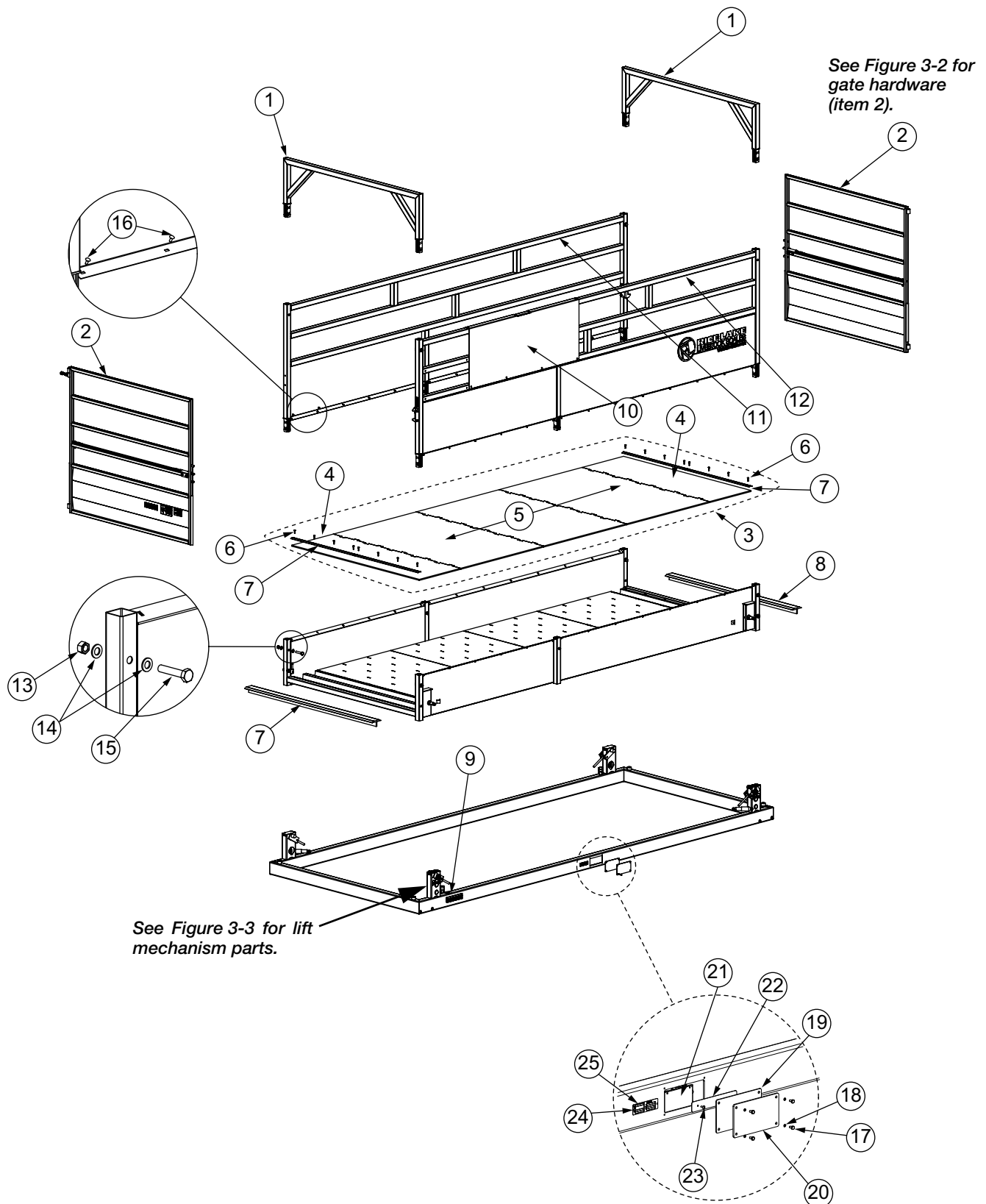


Figure 3-1. MAS-P Parts Illustration

| Item No. | Part No. | Description                                                                         |
|----------|----------|-------------------------------------------------------------------------------------|
| 1        | 130931   | Cage Crossmember                                                                    |
| 2        | 131782   | Gate, MAS, see Figure 3-2                                                           |
| 3        | 131992   | Mat Installation Kit - 13' (Includes items 4-7)                                     |
|          | 131993   | Mat Installation Kit - 18' (Includes items 4-7)                                     |
|          | 128280   | Adhesive, Insta-Cure + (13' Qty 1 / 18' Qty 2)                                      |
|          | 126775   | Sealant, Silicone II Black (13' Qty 2 / 18' Qty 3)                                  |
| 4        | 127234   | Matting, MAS End Section - 13' (Qty 2)                                              |
|          | 127236   | Matting, MAS End Section - 18' (Qty 2)                                              |
| 5        | 127235   | Matting, MAS Center - 13' (Qty 1)                                                   |
|          | 127235   | Matting, MAS Center - 18' (Qty 3)                                                   |
| 6        | 127053   | Bolt, Carriage 5/16-18                                                              |
|          | 21939    | Washer, Plain 5/16 Type A                                                           |
|          | 35170    | Nut, Lock 5/16-18NC Hex                                                             |
| 7        | 131855   | Mounting Strip, Rubber                                                              |
| 8        | 126787   | Belting, Scale T Profile (83" width)                                                |
|          | 127271   | Hold Down Loops                                                                     |
| 9        | 127081   | Bubble Level Circular                                                               |
| 10       | 130022   | Operator Shield                                                                     |
|          | 128169   | Screw, Self Drilling 12-24 x 7/8                                                    |
| 11       | 131708   | Cage Wall 13'                                                                       |
|          | 131946   | Cage Wall 18' Right                                                                 |
| 12       | 131708   | Cage Wall 13'                                                                       |
|          | 131947   | Cage Wall 18' Left                                                                  |
| 13       | 14697    | Nut, Lock 3/4-10 Hex, Nylon Insert Zinc                                             |
| 14       | 15179    | Washer, Plain 3/4 Type A                                                            |
| 15       | 15097    | Cap Screw, 3/4-10NCx3-1/2                                                           |
| 16       | 72083    | Bolt Carriage 5/16 x 1/2 Round Head Grade A Zinc                                    |
|          | 14646    | Nut 5/16 Flanged Serrated                                                           |
|          | 21939    | Washer, Plain 5/16 Type A                                                           |
| 17       | 127007   | Screw, Cap 1/4-20 x 1/2                                                             |
| 18       | 15147    | Washer, Lock 1/4 Regular                                                            |
| 19       | 126819   | Foam Gasket J-box                                                                   |
| 20       | 127740   | Cover Plate Scale Frame/J-box                                                       |
| 21       | 131885   | Mount Plate for JBox                                                                |
|          | 121129   | Screw 10-32 x 0.5                                                                   |
|          | 14633    | Nut, 10-32                                                                          |
| 22       | 88956    | JBox                                                                                |
| NS       | 127561   | Scale Cable Female MS Conn 132"                                                     |
| NS       | 16133    | Sealant, Silicone Clear, (used on cage walls and optional weighcenter installation) |
| NS       | 131374   | Paint, Touchup                                                                      |

*Table 3-1. MAS-P Parts List*



| Item No. | Part No. | Description               |
|----------|----------|---------------------------|
| 1        | 132217   | Jam Nut, 3/4-10NC         |
| 2        | 110950   | Pin, Spring 1/4 x 1 1/4   |
| 3        | 165944   | Hinge Bolt                |
| 4        | 15179    | Washer, 3/4               |
| 5        | 111074   | Nut, 3/4-10NC             |
| 6        | 131782   | Gate, MAS                 |
| 7        | 131701   | Eye Bolt, 5/16-18 x 2 1/2 |
| 8        | 131887   | Quick Link 1/4 in         |
| 9        | 131886   | Cable, 1/4" OD x 6 ft     |
| 10       | 21939    | Washer, 5/16              |
| 11       | 14646    | Nut, Lock 5/16-18NC       |
| 12       | 131784   | Gate Latch Assembly       |
| 15       | 21938    | Washer, 3/8 Lock          |
| 14       | 151559   | Cap Screw, 3/8-16NCx      |
| 15       | 151560   | Cap Screw, 3/8-16 x 3/4   |
| 16       | 155916   | Strike Plate              |
| 17       | 151807   | Washer, Plain 3/4in Nylon |
| 18       | 22072    | Nut, 3/8-16 Grade5        |

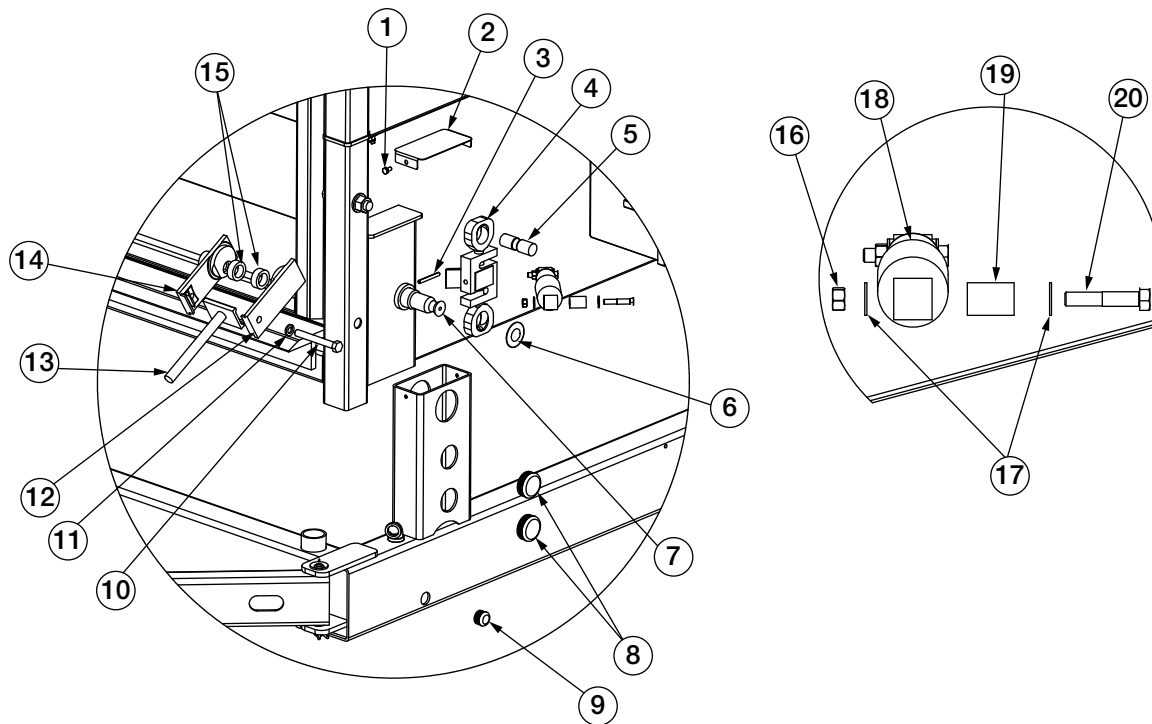


Figure 3-3. MAS-P Detail Parts Illustration

| Item No. | Part No. | Description                                 |
|----------|----------|---------------------------------------------|
| 1        | 127007   | Cap Screw, 1/4-20 x 1/2                     |
| 2        | 127200   | Load Cell Cam Stand Cover SS                |
| 3        | 126926   | Pin Spring Slotted 1/4x2-1/4                |
| 4        | 127163   | Load Cell S-Type 10K                        |
| 5        | 128184   | Upper Notched Load Cell Pin                 |
| 6        | 127668   | Lower Load Cell Retainer                    |
| 7        | 127177   | Lower Notched Load Cell Pin                 |
| 8        | 126789   | Plug Plastic Round 2"                       |
| 9        | 126788   | Plug Plastic Round 1-1/8"                   |
| 10       | 14765    | Bolt 1/2-13NC x 4                           |
| 11       | 15167    | Lockwasher 1/2                              |
| 12       | 131785   | Cam Lever Without Lockdown - Rear Left      |
|          | 127676   | Cam Lever with Lockdown - Front Left        |
| 13       | 127732   | Cam Handle Mask                             |
| 14       | 131787   | Cam Lever with Lockdown - Right Front       |
|          | 127675   | Cam Lever Without Lockdown - Rear Right     |
| 15       | 127165   | Spacer Upper Notched Pin                    |
| 16       | 14656    | Nut 3/8 SS                                  |
| 17       | 15161    | Flat washer 3/8 SS SAE                      |
| 18       | 128626   | Scale Damper Assembly w/Bushings            |
| 19       | 126815   | Bushing, Rubber 7/8 OD x 3/8 ID x 1.25 Long |
| 20       | 22093    | Cap Screw, 3/8-16NCx2 Hex                   |
| NS       | 127562   | Scale Cable Female MS Conn 132"             |
| NS       | 76832    | Bolt, 3/4-10NC x 6-1/2 Hex                  |

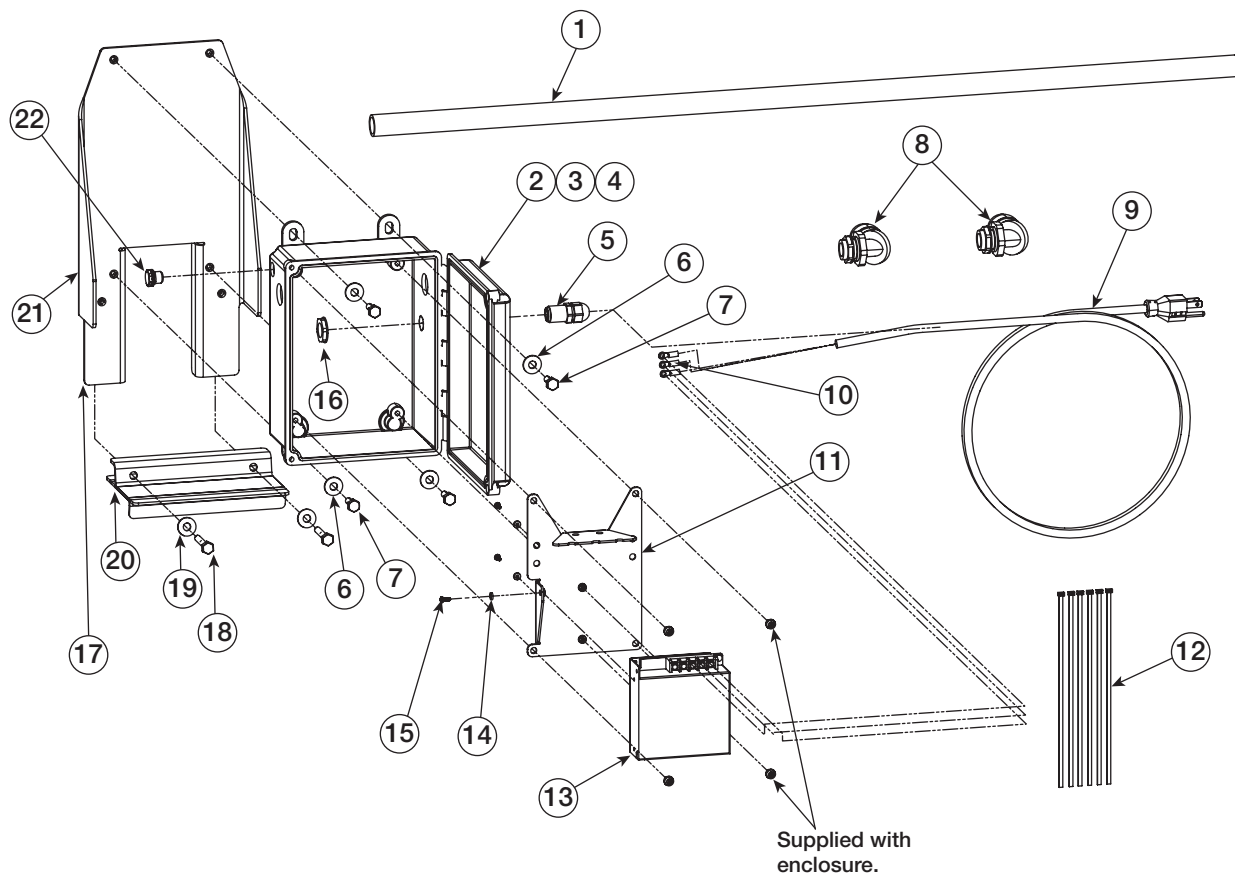


Figure 3-4. AC/DC Power Box Parts Illustration

| Item No | Part No. | Description                                    |
|---------|----------|------------------------------------------------|
| 1       | 128123   | Conduit, Non Metallic                          |
| 2       | 156759   | AC/DC Adapter Box                              |
| 3       | 151901   | Decal, Caution Not a Step                      |
| 4       | 151906   | Decal, Warning Do Not Open                     |
| 5       | 15656    | Locknut, 3/8 NPT                               |
| 6       | 127008   | Screw, Cap 1/4-20 x 3/4                        |
| 7       | 81427    | Washer, Flat 1/4 Steel                         |
| 8       | 127135   | Conn, Non Metallic Liquid                      |
| 9       | 105380   | Power Cord, Pigtail                            |
| 10      | 15694    | Conn, Eye Crimp No 8                           |
| 11      | 156795   | AC/DC Power Supply, Mount                      |
| 12      | 16141    | Cable Tie, 8in Nylon                           |
| 13      | 156761   | Power Supply, Switching                        |
| 14      | 127028   | Washer, Flat No 4 18-8 SST                     |
| 15      | 41757    | Screw, Cap M3-0.5x8                            |
| 16      | 15655    | Cable, Grip 3/8NPT                             |
| 17      | 156760   | AC/DC Mounting Assembly (Includes Items 18-21) |
| 18      | 106462   | Screw, Cap, 1/4-20NC x 1 1/2"                  |
| 19      | 81427    | Washer, Flat, 1/4" Steel                       |
| 20      | 156764   | Mounting Bracket, Angle                        |
| 21      | 156829   | Mounting Bracket                               |
| 22      | 128022   | Vent, Integrated Screw                         |

## 4.0 Maintenance

### 4.1 Maintenance Schedule

#### Weekly

1. Check entire scale for buildup of debris. Remove any debris found on, under or around the scale.
2. Check for dirt and debris in the load cell stands and clean accordingly.
3. Check all external cables and conduit for damage.

#### Yearly (in addition to weekly and monthly maintenance)

1. Disassemble each load cell location and grease all pins and eye bolts.

### 4.2 Scale Maintenance Procedures

#### Cleaning Load Cell Stands

It is very important to keep any excess debris from building up in the load cell stand. Lift scale and block it up, clean any dirt out of the load cell stands through the drain holes located at the bottom of the stand.

#### Disassembly and Greasing

This is very important to ensure the long life of your unit. Use the parts list drawings for item numbers.



**Note**

*Use quality high-pressure grease.*

*Avoid bending or twisting the load cell wires.*

1. Remove the cell stand cover.
2. Remove the plug covers.
3. Remove the bolt which holds together the outer cam, load cell pin and inner cam.
4. While holding the cam handle, remove the outer cam.
5. Remove the load cell pin and spacers. The load cell assembly will be free on top and rest against the inside of the cell stand.
6. Remove the inner cam.
7. Remove the lower retainer.
8. Grease all bearing surfaces except where the eye bolt contacts the pin (upper and lower pins, cams, upper and lower eye bolts).
9. Reassemble in reverse order as described above.

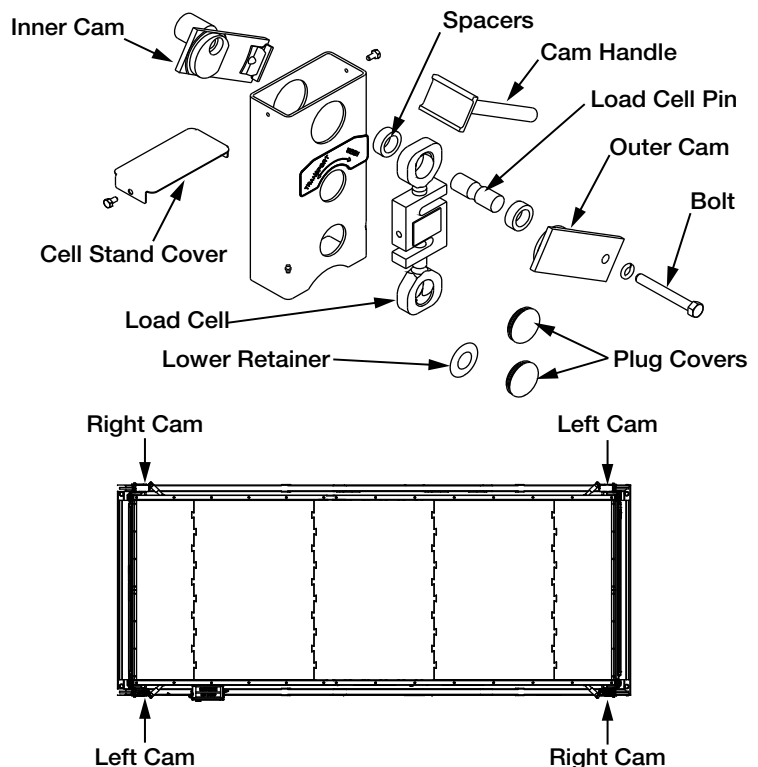


Figure 4-1. Disassembly and Greasing

## 4.3 Specifications

|                                       | MAS8-13                                                                                  | MAS8-18                                           |
|---------------------------------------|------------------------------------------------------------------------------------------|---------------------------------------------------|
| Length Overall                        | 13'-6"                                                                                   | 19'-3"                                            |
| Length Deck                           | 12'-9"                                                                                   | 18'-6"                                            |
| Width Overall                         | 8'-4.13"                                                                                 | 8'-4.13"                                          |
| Width Deck                            | 6'-11.5"                                                                                 | 6'-11.5"                                          |
| Deck Height                           | 6"                                                                                       | 6"                                                |
| Height                                | 100.2"                                                                                   | 100.2"                                            |
| Deck Covering                         | 5/8" Recycled Rubber Flooring System                                                     |                                                   |
| Weight                                | 3230 lb                                                                                  | 3800 lb                                           |
| Capacity                              | 15000 lb                                                                                 | 20000 lb                                          |
| Section Cap                           | 10000 lb                                                                                 | 20000 lb                                          |
| Approval Class                        | IIIL (IIHHD)                                                                             | IIIL (IIHHD)                                      |
| Approvals                             |  99-091 | <b>Measurement<br/>Canada<br/>Approved</b> AM4847 |
| Grad Size                             | 5 lb (2 kg)                                                                              | 5 lb (2 kg)                                       |
| **Paint                               | Powder Coated Galvanized Steel                                                           |                                                   |
| **Structural Steel is not galvanized. |                                                                                          |                                                   |

### Notes:

Size / Model # \_\_\_\_\_

Serial # \_\_\_\_\_

Date Purchased \_\_\_\_\_

Unit ID # \_\_\_\_\_

# MAS-P Limited Warranty

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Rice Lake Weighing Systems (RLWS) warrants that all RLWS equipment and systems properly installed by a Distributor or Original Equipment Manufacturer (OEM) will operate per written specifications as confirmed by the Distributor/OEM and accepted by RLWS. All systems and components are warranted against defects in materials and workmanship for two years.

RLWS warrants that the equipment sold hereunder will conform to the current written specifications authorized by RLWS. RLWS warrants the equipment against faulty workmanship and defective materials. If any equipment fails to conform to these warranties, RLWS will, at its option, repair or replace such goods returned within the warranty period subject to the following conditions:

- Upon discovery by Buyer of such nonconformity, RLWS will be given prompt written notice with a detailed explanation of the alleged deficiencies.
- Individual electronic components returned to RLWS for warranty purposes must be packaged to prevent electrostatic discharge (ESD) damage in shipment. Packaging requirements are listed in a publication, *Protecting Your Components From Static Damage in Shipment*, available from RLWS Equipment Return Department.
- Examination of such equipment by RLWS confirms that the nonconformity actually exists, and was not caused by accident, misuse, neglect, alteration, improper installation, improper repair or improper testing; RLWS shall be the sole judge of all alleged non-conformities.
- Such equipment has not been modified, altered, or changed by any person other than RLWS or its duly authorized repair agents.
- RLWS will have a reasonable time to repair or replace the defective equipment. Buyer is responsible for shipping charges both ways.
- In no event will RLWS be responsible for travel time or on-location repairs, including assembly or disassembly of equipment, nor will RLWS be liable for the cost of any repairs made by others.

**THESE WARRANTIES EXCLUDE ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING WITHOUT LIMITATION WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. NEITHER RLWS NOR DISTRIBUTOR WILL, IN ANY EVENT, BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.**

**RLWS AND BUYER AGREE THAT RLWS' SOLE AND EXCLUSIVE LIABILITY HEREUNDER IS LIMITED TO REPAIR OR REPLACEMENT OF SUCH GOODS. IN ACCEPTING THIS WARRANTY, THE BUYER WAIVES ANY AND ALL OTHER CLAIMS TO WARRANTY.**

**SHOULD THE SELLER BE OTHER THAN RLWS, THE BUYER AGREES TO LOOK ONLY TO THE SELLER FOR WARRANTY CLAIMS.**

**NO TERMS, CONDITIONS, UNDERSTANDING, OR AGREEMENTS PURPORTING TO MODIFY THE TERMS OF THIS WARRANTY SHALL HAVE ANY LEGAL EFFECT UNLESS MADE IN WRITING AND SIGNED BY A CORPORATE OFFICER OF RLWS AND THE BUYER.**

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